

**CLAIMS:**

1. Device for recording information in a track (11) on a record carrier (4), the device comprising:

- a head (22) for generating a beam of radiation for writing marks and spaces between the marks, and for generating at least one read signal in dependence on the marks and spaces, the marks and spaces each having a nominal run length of a predetermined number of bits, and the run lengths constituting a recorded pattern having a multitude of different run lengths for representing the information,

- detection means (32) coupled to the read signal for generating a signed deviation value signal (34) indicative for a position deviation of a starting edge of a mark and/or an ending

10 edge of a mark with respect to a nominal position of said edge,

- calculation means (31) for selecting at least one predefined run length pattern and determining a correction signal (33) based on at least one statistically calculated parameter of the signed deviation value signal for the selected run length pattern,

and

15 - radiation source control means (29) for controlling the power of the radiation source during said writing in dependence of the correction signal.

2. Device as claimed in claim 1, wherein the calculation means (31) are arranged for calculating a mean value of the runlength between the starting edge and the ending edge 20 of marks as the parameter of the signed deviation value signal.

3. Device as claimed in claim 1, wherein the calculation means (31) are arranged for calculating a mean value of the position deviation of the starting edge and/or the ending edge as the parameter of the signed deviation value signal.

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4. Device as claimed in claim 1, wherein the calculation means (31) are arranged for selecting as the run length pattern marks and/or spaces nominally having

- a single predefined run length, or
- run lengths in a limited range of run lengths, or

- a run length sequence including at least a mark and at least one space having predefined run lengths.

5. Device as claimed in claim 4, wherein the calculation means (31) are arranged  
5 for calculating a mean value of said parameter in dependence of the size of a space preceding  
the starting edge or following the ending edge of the mark.

10. 6. Device as claimed in claim 5, wherein the calculation means (31) are arranged  
for calculating a pre-heat effect of a mark in dependence of the space preceding the starting  
edge of the mark by comparing a first mean value calculated for a relative short space before  
the mark and a second mean value calculated for a relative long space before the mark.

15. 7. Device as claimed in claim 6, wherein the radiation source control means (29)  
are arranged for controlling the power of the radiation source at the beginning of writing a  
mark in dependence of the pre-heat effect.

20. 8. Device as claimed in claim 1, wherein the detection means (32) are arranged  
for generating the signed deviation value signal during an optimum power control mode  
(OPC), in which mode test information is written and the radiation source control means are  
controlling the power of the radiation source during said writing at an optimum power  
according to predefined settings and/or previously generated values of the correction signal.

25. 9. Device as claimed in claim 1, wherein the detection means (32) are arranged  
for generating the signed deviation value signal during said writing, during which writing the  
radiation source control means are controlling the power of the radiation source at an  
optimum power according to predefined settings and/or previously generated values of the  
correction signal, by temporarily interrupting said writing and during said interruption  
reading a part of the recorded pattern for generating the read signal.

30. 10. Method of controlling the power of a radiation source during recording  
information in a track on a record carrier, the method comprising  
- writing and reading marks and spaces between the marks, the marks and spaces each having  
a nominal run length of a predetermined number of bits, and the run lengths constituting a  
recorded pattern having a multitude of different run lengths for representing the information,

- generating a signed deviation value signal indicative for a position deviation of a starting edge of a mark and/or an ending edge of a mark with respect to a nominal position of said edge,
- selecting at least one predefined run length pattern,

5 - determining a correction signal based on at least one statistically calculated parameter of the signed deviation value signal for the selected run length pattern  
and

- controlling the power of the radiation source during said writing in dependence of the correction signal.

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11. Record carrier of a recordable type comprising a track for recording information, the recording comprising

- writing and reading marks and spaces between the marks, the marks and spaces each having a nominal run length of a predetermined number of bits, and the run lengths constituting a recorded pattern having a multitude of different run lengths for representing the information, and
- an optimum power control process including
  - generating a signed deviation value signal indicative for a position deviation of a starting edge of a mark and/or an ending edge of a mark with respect to a nominal position of said edge,
  - selecting at least one predefined run length pattern,
  - determining a correction signal based on at least one statistically calculated parameter of the signed deviation value signal for the selected run length pattern and
- 20 - controlling the power of the radiation source during said writing in dependence of the correction signal,  
the record carrier comprising prerecorded control information for adjusting the optimum power control process.